

FIG. 1

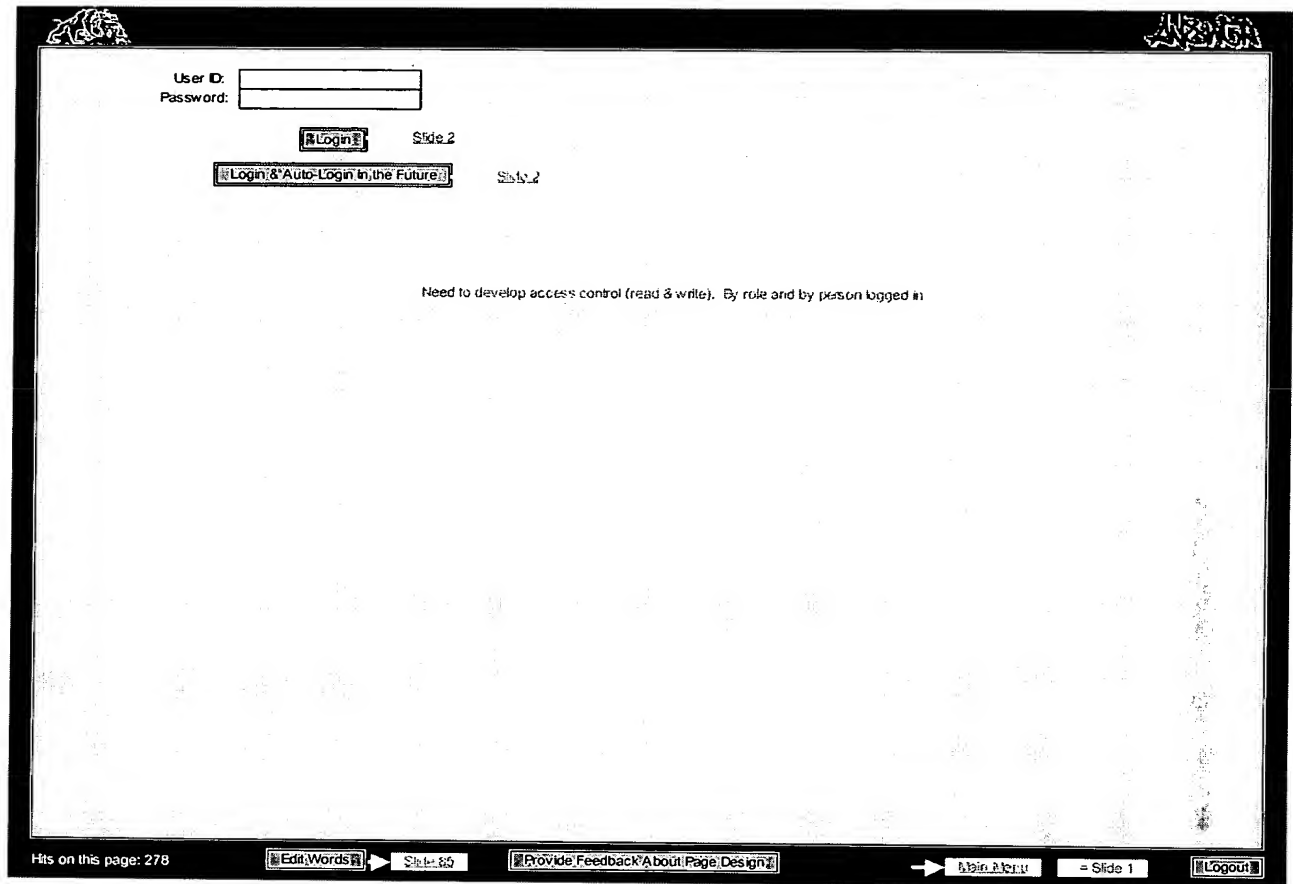


FIG. 2A

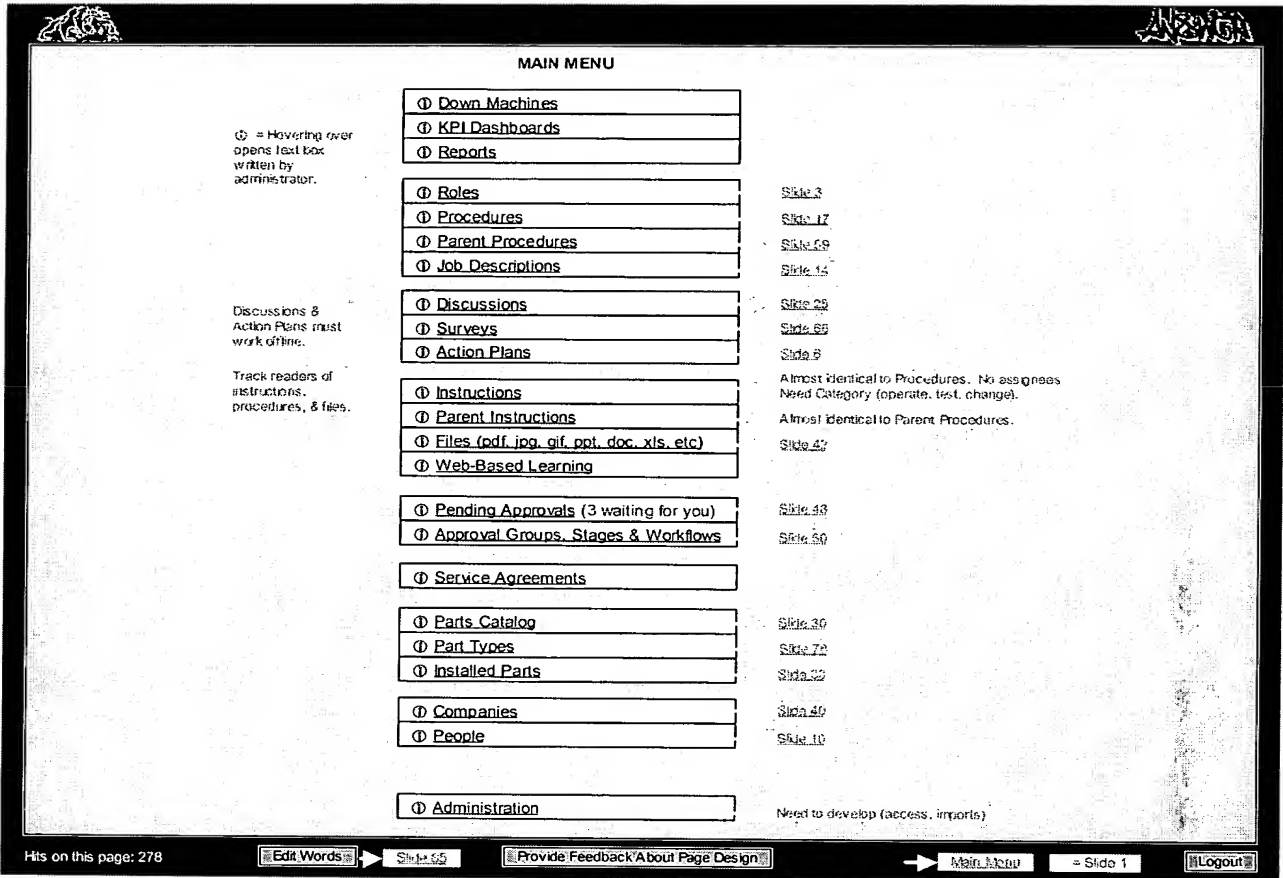


FIG. 2B

Escalation Hotboards	Project Action Plans
KPI Dashboards	Customer Actions Plans
Reports	Start Up Machine
Procedures	Clean Machine
Job Descriptions	PM Machine
Help Desk Action Plans	Revise Machine (FCN)
Employee Action Plans	Enhance Machine (CIN)
Files (documentation)	Repair Machine
Collaboration	De-Install Machine
Service Agreements (warranty & contract)	Learn Machine
Machines	Machine Operations, Tests, & Corrective Actions
Part Types	Machine-Related Files (documentation)

= Also available on offline client application for the majority of employees that work offline in the fab.

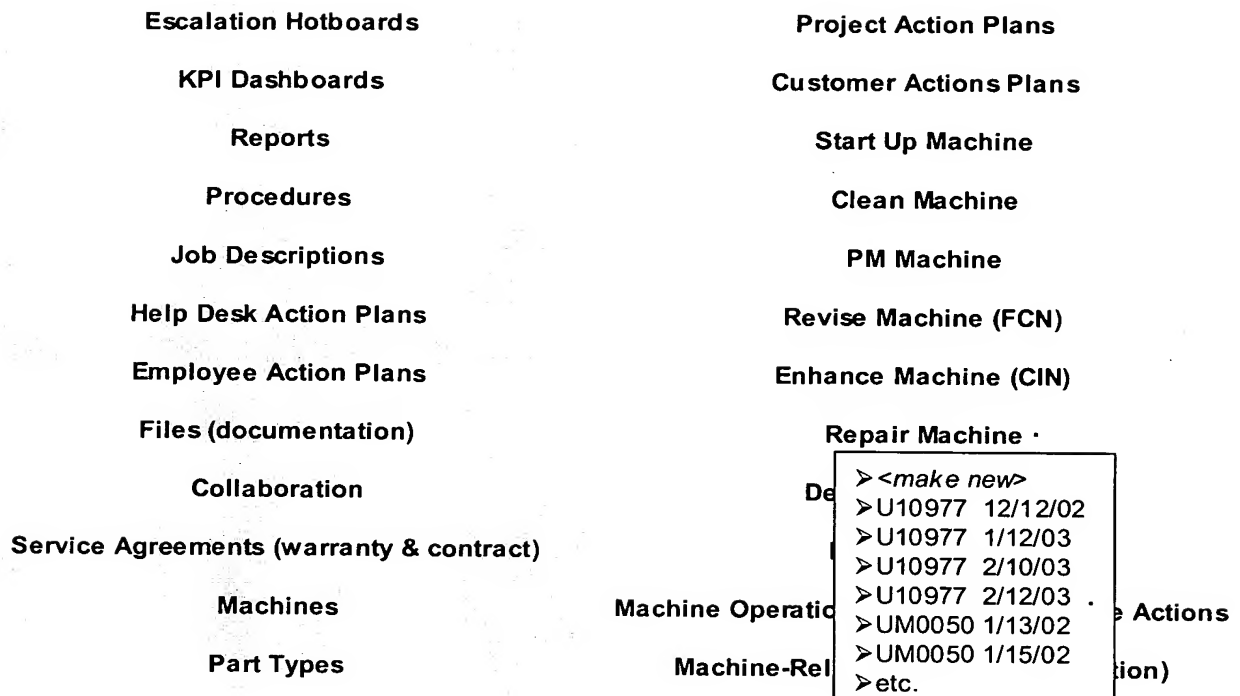
Return

FIG. 2C

ANSWER MAIN MENU

Download
Client

Search



= Also available on offline client application for the majority of employees that work offline in the fab.

FIG. 3A

REPAIR MACHINE

Machine S/N:	U10977
Process Chamber S/N:	PC2-23244
Process Type:	Via
Purchasing Account:	Machine Warranty, Service Agreement # 434, 11/1/02 to 10/31/03 (unless otherwise specified, all parts will be billed this account)

Confirm / Enter Information & press ENTER.

ENTER

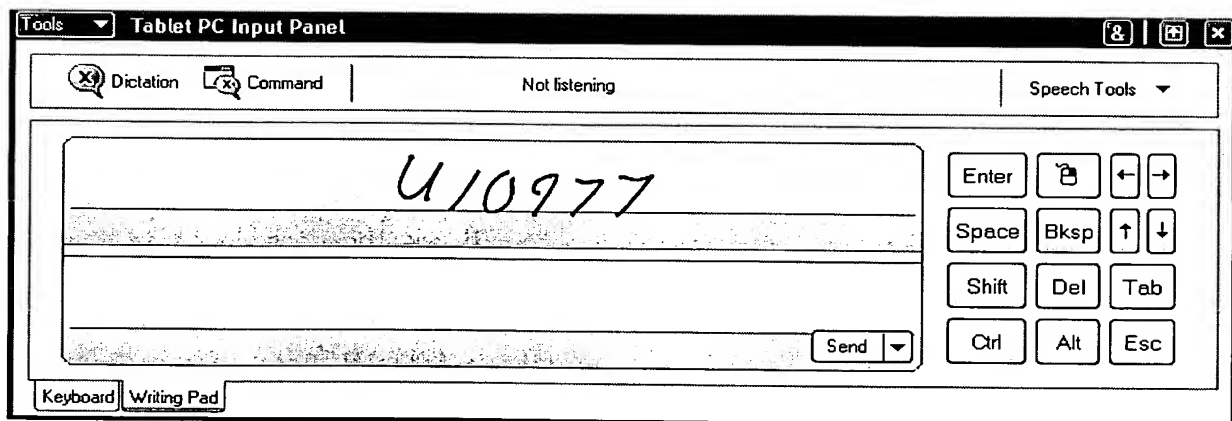


FIG. 3B

U10977 REPAIR HISTORY

Here's a list of test that have failed on this machine & actions taken. If you see the current problem occurring often over the past few weeks, be careful to isolate the true cause & avoid repeating ineffective corrective actions.

Date	Type of Work	Description	Appears Ineffective*	Reason/s
2/10/03	Corrective Action	Replaced Matcher (ES1D80-34322-12)	v	Same action was taken earlier this week.
2/10/03	Test	51A5		
2/7/03	Corrective Action	Replaced Matcher (ES1D80-34322-12)	v	1. Same failure occurred later that week. 2. Factory failure analysis of part found no problem.
2/7/03	Test	51A5		
2/7/03	Test	C4F8 Flow		
2/2/03	Corrective Action	Calibrated Forward RF	v	Same failure occurred later that week.
2/2/03	Test	51A5		
1/11/03	Corrective Action	Replaced Manometer (ES1880-55991-01)		
1/11/03	Test	3A32		
1/11/03	Test	2A32		
12/21/02	Corrective Action	Cleaned Process Chamber		
12/21/02	Test	Particles		
12/21/02	Test	Yield		
10/7/02	Corrective Action	Adjusted Needle Valve		
10/7/02	Test	2B44		
9/25/02	Corrective Action	Reset Main Controller		
9/25/02	Test	5994		
9/1/02	Corrective Action	Replaced Matcher (ES1D80-34322-12)		
9/1/02	Test	51A5		
5/17/02	Corrective Action	Aligned Baffle Plate		
5/17/02	Test	Etch Rate		
5/16/02	Corrective Action	Replaced ESC (ES1D50-65921-15)	v	Same failure occurred later that week.
5/16/02	Test	Selectivity		
5/16/02	Test	Non-Uniform		
5/16/02	Test	Etch Rate		
3/5/02	Corrective Action	Aligned Robot		
3/5/02	Test	2299		

* If appears ineffective, the case is not included in interactive case study.

FINISHED

FIG. 3C

SELECT TEST THAT FAILED:	
51A5	▲
61A5	
Matcher Mode Setting.	
PC Leak Rate.	
C4F8 Flow.	
Forward RF Power.	
RF Cable TDR.	
Gap Drive Chain Tension.	
Lift Pin Home Position.	
Focus Ring Thickness.	
Water Flow.	
Nitrogen Purge Pressure.	
Software Parameter Setting.	▼

Type here & press button below.

MANUALLY ENTER A NEW TEST THAT FAILED:

FIG. 3D

DESIRED RESULTS

Lower Failure	Lower Warning	Target	Upper Warning	Upper Failure	Should Be	Units	Based Only On Opinion
		Not Occurring			Equal To		No

ENTER ACTUAL RESULT

Occurring

FAILED

ENTER

COMMENTS

ATTACH FILE

FIG. 3E

CURRENT CASE

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases	Cases That Still Match
1	Test = 51A5.		30

Add Another

Tests & Corrective Actions Planned For This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases

Add Another

INTERACTIVE CASE STUDY

Tests Completed On Matching Cases

Filter

Rank	Test	Cases That Will Be Left If Test Originally:	
		Passes	Fails
1	Matcher Mode Setting.	21	9
2	PC Pressure Control.	21	9
3	C4F8 Flow.	23	7
4	Forward RF Power.	24	6
5	RF Cable TDR.	29	1

Corrective Actions Completed On Matching Cases

Rank	Corrective Actions	Previously Tried On Matching Cases And:	
		Corrected	Didn't Correct
1	Replaced Matcher.	10 (33%)	6
2	Replaced C4F8 MFC.	4 (12%)	0
3	Calibrated Forward RF Power.	4 (12%)	4
4	Taught APC.	4 (12%)	0
5	Replaced RF Gen.	2 (7%)	4
6	Replaced RF Cable.	1 (3%)	1

FIG. 3F

CURRENT CASE

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases	Cases That Still Match
1	Test = 51A5.		30
2	Test = Matcher Mode Setting.		21
3	Test = PC Pressure Control.		15
4	Test = C4F8 Flow.		4

Add Another

Tests & Corrective Actions Planned For This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases

Add Another

INTERACTIVE CASE STUDY

Filter

Tests Completed On Matching Cases

Rank	Test	Cases That Will Be Left If Test Originally:	
		Passes	Fails

Corrective Actions Completed On Matching Cases

Rank	Corrective Actions	Previously Tried On Matching Cases And:	
		Corrected	Didn't Correct
1	Replaced C4F8 MFC.	4 (100%)	0

FIG. 3G

REPLACE C4F8 MFC

Part Number:	ES1D80-43532-02	(based on S/N's of machine & P/C and P/N entered at startup or previous service call)
Quantity:	1	
Purchasing Account:	Warranty	(based on machine's service agreement & whether part is consumable)
Shipping Requirement:	Need Part Shipped	
Shipping Priority:	Next Flight Out	
Shipping Address:	2302 Main St. Phoenix, AZ, 54543, Attn: Bill Anderson	
ETA Requirement:	Yes	
Approval Status:	Pre-Approved for Warranty purchase because: 1. Case has occurred frequently In the past & engineer followed the historical troubleshooting methods (BKM's) & isolated to a single part. 2. Part costs less than \$5000. 3. Part wasn't recently replaced on this machine.	

Confirm / enter information, connect to Server, & press UPLOAD REQUEST.

**UPLOAD
REQUEST**

**EXIT WITHOUT UPLOADING
(POSSIBLY WANT TO REPLACE
MULTIPLE PARTS).**

FIG. 3H

CURRENT CASE

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State
TEA	C4F8 MFC	ES1D80-43532-02	55453324	Received.	

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases	Cases That Still Match
1	Test = 51A5.		30
2	Test = Matcher Mode Setting.		21
3	Test = PC Pressure Control.		15
4	Test = C4F8 Flow.		4

Add Another

Tests & Corrective Actions Planned For This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases
1	Corrective Action = Replace C4F8 MFC.	

Add Another

INTERACTIVE CASE STUDY

Tests Completed On Matching Cases

Filter

Rank	Test	Cases That Will Be Left If Test Originally:	
		Passes	Fails

Corrective Actions Completed On Matching Cases

Rank	Corrective Actions	Previously Tried On Matching Cases And:	
		Corrected	Didn't Correct
1	Replaced C4F8 MFC.	4 (100%)	0

FIG. 3I

REPLACE C4F8 MFC

1. Pump out gas line.
2. Test leak rate of gas line.
3. Purge gas line.
4. Loosen VCR fittings.
5. Disconnect MFC cable.
6. Remove MFC.
7. Install new MFC.
8. Tighten VCR fittings.
9. Pump out gas line.
10. Test leak rate of gas line.

Finished

Feedback
(Document Change Request)

FIG. 3J

CURRENT CASE

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State
TEA Machine	C4F8 MFC	ES1D80-43532-02	55453324	Installed.	
	C4F8 MFC	ES1D80-43532-02	83458325	Removed.	

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases	Cases That Still Match
1	Test = 51A5.		30
2	Test = Matcher Mode Setting.		21
3	Test = PC Pressure Control.		15
4	Test = C4F8 Flow.		4
5	Corrective Action = Replaced C4F8 MFC.		

Re-check failed tests since a corrective action was done.

Add Another

Tests & Corrective Actions Planned For This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases

Add Another

INTERACTIVE CASE STUDY

Filter

Tests Completed On Matching Cases

Rank	Test	Cases That Will Be Left If Test Originally:	
		Passes	Fails

Corrective Actions Completed On Matching Cases

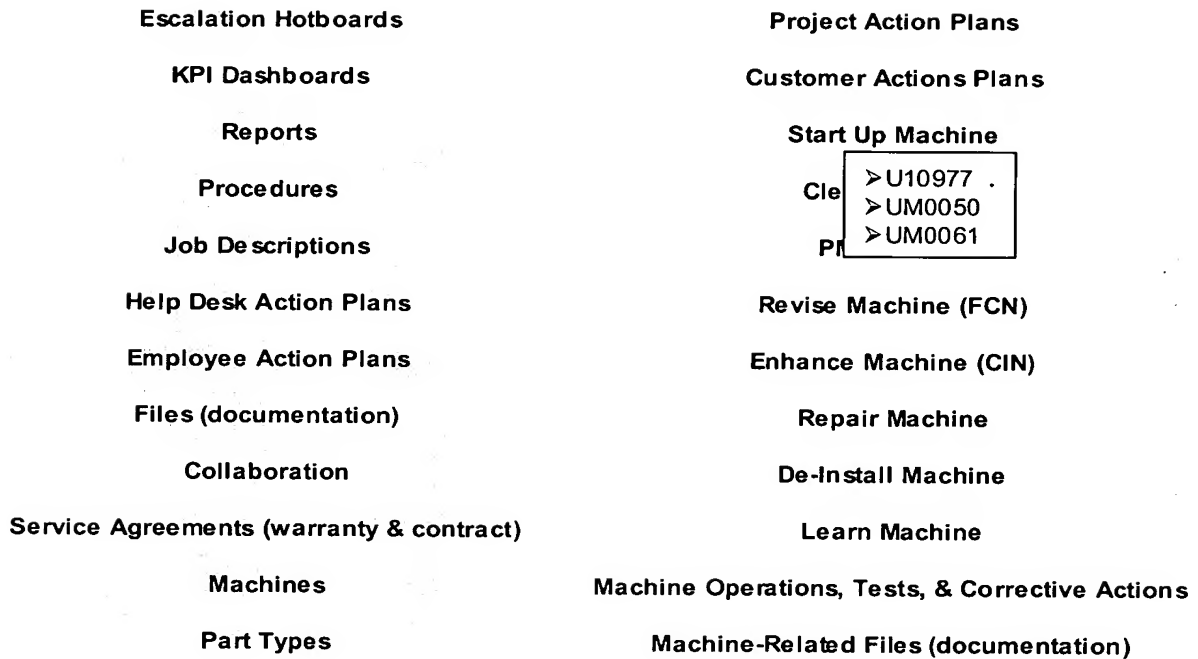
Rank	Corrective Actions	Previously Tried On Matching Cases And:	
		Corrected	Didn't Correct

FIG. 3K

ANSWER MAIN MENU

**Download
Client**

Download Successful!



= Also available on offline client application for the majority of employees that work offline in the fab.

FIG. 4A

CALL 342—AMD F25 START UP U10977

CALL 342—AMD F25 START UP U10977

MAN-HOURS

(figure out how many hours each engineer plans to put on his time card & enter the total).

	Travel	Labor	Waiting Parts	Waiting Customer
Paid Service	0.5	.6	4	
Contract				
Pre-Start Up				
Start Up				
Pre-Warranty				
Warranty				
Contract				
FCN				
Modification				
TEA Department				

PAID SERVICE EXPENSES

(figure out expenses each engineer will expense & enter the total).

	Quantity	Rate (\$)	Extended Price (\$)
Hotel		100	
Air Fare			
Per Diem (car/meals)		100	

ENTER

FIG. 5A

CASE 453—AMD F25 REPAIR U10977 PC2 2-11-03

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State
TEA	C4F8 MFC	ES1D80-43532-02	55453324	Installed. Part of Solution.	
Machine	C4F8 MFC	ES1D80-43532-02	83458325	Removed. Bad.	

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Not Previously Done On Matching Cases	Cases That Still Match
1	Test = 51A5 = Failed.		30
2	Test = Matcher Mode Setting = Passed.		21
3	Test = PC Pressure Control = Passed.		15
4	Test = C4F8 Flow = Failed.		4
5	Corrective Action = Replaced C4F8 MFC = Part of Solution.		
6	Test = C4F8 Flow = Passed.		
7	Test = 51A5 = Passed.		

Man-hours:

	Travel	Labor	Waiting Parts	Waiting Customer
Paid Service	0.5	.6	4	

Customer Signature

This signifies that customer agrees that this work was completed. This is not the invoice.

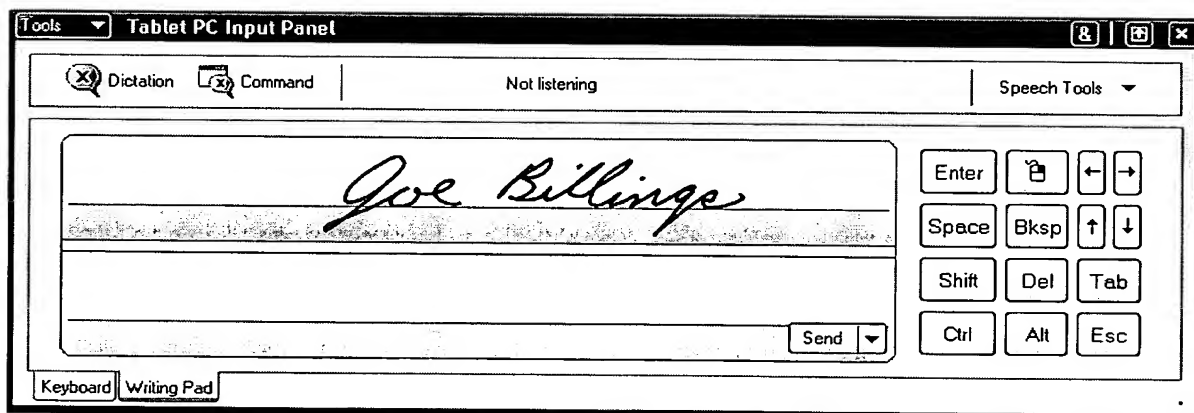


FIG. 5B

CASE 453—AMD F25 REPAIR U10977 PC2 2-11-03

Parts Associated With This Case

Source	Part	P/N	S/N	State	Green = Acceptable Final State
TEA	C4F8 MFC	ES1D80-43532-02	55453324	Installed.	Part of Solution.
Machine	C4F8 MFC	ES1D80-43532-02	83458325	Removed.	Bad.

Tests & Corrective Actions Completed On This Case

Order	Tests & Corrective Actions	Green = Test Passed or Corrective Action is Part Of Solution Red = Test Failed or Corrective Action is Not Part Of Solution	Not Previously Done On Matching Cases	Cases That Still Match
1.	Test = 51A5 = Failed.			30
2.	Test = Matcher Mode Setting = Passed.			21
3.	Test = PC Pressure Control = Passed.			15
4.	Test = C4F8 Flow = Failed.			4
5.	Corrective Action = Replaced C4F8 MFC = Part of Solution.			
6.	Test = C4F8 Flow = Passed.			
7.	Test = 51A5 = Passed.			

Man-hours:

	Travel	Labor	Waiting Parts	Waiting Customer
Paid Service	0.5	6	4	

Customer Signature

This signifies that customer agrees that this work was completed. This is not the invoice.

Joe Billings

EMAIL

PRINT

Return

LEARN UNITY Ile DRM

Exit

**Study Process Chamber Block Diagram
Watch Process Chamber Wet Clean Video
Watch ESC Replacement Video
Take Process Chamber Quiz**

**Study RF Control Block Diagram
Watch RF Calibration Video
Take RF Control Quiz**

**Study RF Tuning Block Diagram
Watch Matcher Replacement Video
Take RF Tuning Quiz**

**Study Helium Delivery Block Diagram
Watch Helium MFC Replacement Video
Take Helium Delivery Quiz**

**Study Pressure Plumbing Block Diagram
Watch TMP Replacement Video
Take Pressure Plumbing Quiz**

**Study Pressure Electrical Block Diagram
Watch APC Teaching Video
Take Pressure Electrical Quiz**

**Study Process Gas Block Diagram
Watch MFC Self Check Video
Watch MFC Replacement Video
Take Process Gas Quiz**

**Study Magnet Block Diagram
Watch Magnet Speed Calibration Video
Watch Magnet Replacement Video
Take Magnet Quiz**

**Study Temperature Block Diagram
Watch Chiller Pump Replacement Video
Take Temperature Quiz**

Take Unity Ile DRM Final Exam

FIG. 6

ANSWER MAIN MENU

**Download
Client**

Search

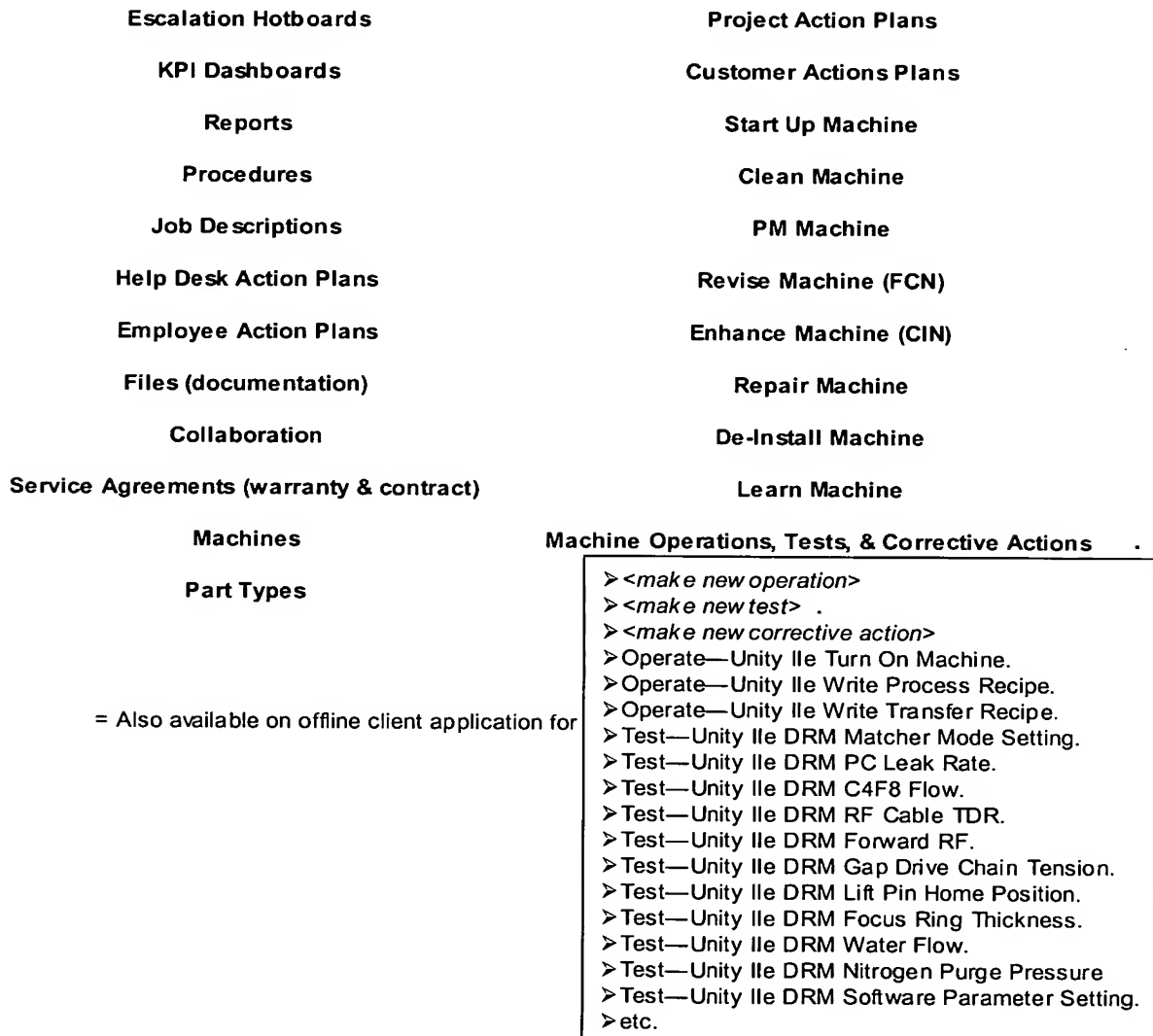


FIG. 7A

ACTION DETAILS

ID:	10239
Revision:	Preliminary
Originator:	T. Bushee
Approver:	
Approval Date:	
Reject Date:	
Reason Rejected:	
Description:	Unity Ile SCCM Forward Power
Parent Task:	Forward Power
Applicable Products:	Unity Ile SCCM
Applicable Companies:	All
Hours to Complete:	0.5
Lower Failure:	-3%
Lower Warning:	
Target:	Forward Power Setpoint
Upper Warning:	
Upper Failure:	+3%
Should Be:	Equal To
Units:	Watts
Based Only On Opin:	No
Start Up Measure:	1000
Start Up Measures:	1500
Start Up Measures:	2000
Start Up Measures:	TBD
Start Up Measures:	
Start Up Measures:	
PM Measure:	1500
PM Measures:	TBD
PM Measures:	
PM Measures:	
PM Measures:	
PM Measures:	

Add Instructions

Submit

FIG. 7B

ANSWER MAIN MENU

**Download
Client**

Search

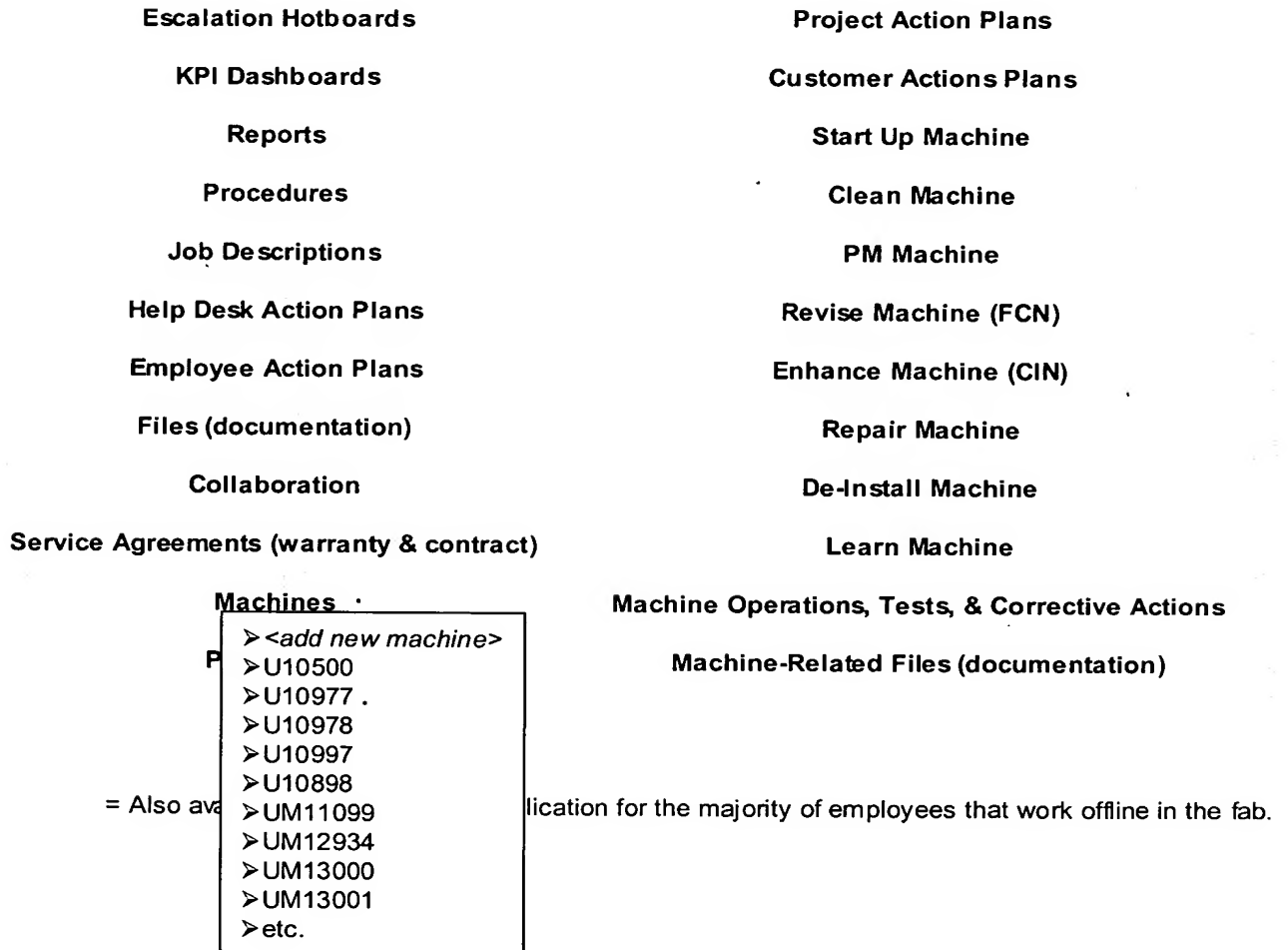


FIG. 8A

Repair History	Call History	Exit	MACHINE UNITY IIe U10977										Assign New
----------------	--------------	------	--------------------------	--	--	--	--	--	--	--	--	--	------------

Service Agreements (ideally AMD would be allowed access to this over the Extranet)

Order	Type	Service Agreement #	Start	Stop	Revenue (\$)	Coverage Description	Coverage Hours
1.	Warranty	29	3/1/99	3/1/00	10,000	Standard Unity II-C2 Warranty	8-5, M-F
2.	Contract	137	3/1/00	3/1/01	12,000	Standard Unity II-C2 Contract	8-5, M-F
3.	Contract	256	3/1/00	3/1/01	3,000	Standard Pager Contract	5-8 & WE

Ownership

Order	Company	FOB		SL1 Done		SL2 Done		HW SU Done		System Accepted	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1.	AMD F25	3/1/98	3/1/98	5/1/98	5/5/98	6/1/98	6/2/98	1/1/99	1/1/99	2/1/99	3/1/99

Current BOM

Part Type	Part ID	S/N	Spare	Cons	Spec Life	Spec Life Unit	Actual Life (last call/case)		
							Cal Days	RF Hours	Wafers
PC	SCCM	PC1-245					789	20098	64554
Baffle Plate	ES-1D80-444-12	5345	L1	Yes	500	RF Hrs	14	234	700
Chiller	ES-1D86-555-12	CC5345					789	20098	64554
Depo Shield	ES-1855-232-12	5495	L1	Yes	500	RF Hrs	14	234	700
ESC	ES-1D56-555-12	ESC-344	L1	Yes	3000	RF Hrs	65	20098	64554
Focus Ring	ES-1D88-787-12	FR393	L1	Yes	500	RF Hrs	14	234	700
Matcher	ES-1880-232-12	MN493	L1				23	400	1400
MFC, C4F8	ES-1D66-898-12	C239034	L1				555	15000	50000
MFC, O2	ES-1880-232-12	C49523	L1				454	20098	64554
RFG	ES-1D80-989-12	RFG9433	L3				342	10000	25000
PC	SCCM	PC2-246					800	20098	64554
Baffle Plate	ES-1D80-444-12	53545	L1	Yes	500	RF Hrs	7	134	300
Chiller	ES-1D86-555-12	CC5565					800	20098	64554
Depo Shield	ES-1855-232-12	6495	L1	Yes	500	RF Hrs	7	134	300
ESC	ES-1D56-555-12	ESC-355	L1	Yes	3000	RF Hrs	65	20098	64554
Focus Ring	ES-1D88-787-12	FR388	L1	Yes	500	RF Hrs	7	134	300
Matcher	ES-1880-232-12	MN455	L1				4	100	200
MFC, C4F8	ES-1D66-898-12	C239050	L1				555	15000	50000
MFC, O2	ES-1880-232-12	C49555	L1				454	20098	64554
RFG	ES-1D80-989-12	RFG8000	L3				342	10000	25000
Robot	ES-1D85-878-12	Y47774					800	20098	64554

FIG. 8B

Machine S/N:	MACHINE U10999
Mach. Model:	Unity Ile
PC Qty:	2

Start Up Engineer:	D. Kim
--------------------	--------

Enter

Service Agreements

Assign Another

Order	Type	Service Agreement #	Start	Stop	Monthly Revenue (\$)	Coverage Description	Coverage Hours
1.	Warranty	29	3/1/03				

Ownership

Order	Company	FOB		SL1 Done		SL2 Done		HW SU Done		System Accepted	
		Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
1.	AMD F25	3/1/03		5/1/03		6/1/03		1/1/04		2/1/04	

Current BOM

Add Another

Part Type	Part ID	S/N	Spare	Cons	Spec Life	Spec Life Unit
PC	SCCM					
Baffle Plate						
Chiller						
Depo Shield						
ESC						
Focus Ring						
Matcher						
MFC, C4F8						
MFC, O2						
RFG						
PC	SCCM					
Baffle Plate						
Chiller						
Depo Shield						
ESC						
Focus Ring						
Matcher						
MFC, C4F8						
MFC, O2						
RFG						
Robot						

FIG. 8C

ANSWER MAIN MENU

**Download
Client**

Search

Escalation Hotboards
KPI Dashboards
Reports
Procedures
Job Descriptions
Help Desk Action Plans
Employee Action Plans
Files (documentation)
Collaboration
Service Agreements (warranty & contract)

Project Action Plans
Customer Actions Plans
Start Up Machine
Clean Machine
PM Machine
Revise Machine (FCN)
Enhance Machine (CIN)
Repair Machine
De-Install Machine
Learn Machine

Machines

Machine Operations, Tests, & Corrective Actions

Part Types

Machine-Related Files (documentation)

- = Also available for the majority of employees that work offline in the fab.
- > <add new part type>
 - > Part Type—Baffle Plate
 - > Part Type—Chiller
 - > Part Type—Depo Shield
 - > Part Type—ESC .
 - > Part Type—Focus Ring
 - > Part Type—Matcher
 - > Part Type—MFC, CF4
 - > Part Type—RF Generator
 - > Part Type—Robot
 - > etc.

FIG. 8D

ANSWER MAIN MENU

Download Client

Search

Escalation Hotboards

KPI Dashboards

Reports

Procedures

Job Descriptions

Help Desk Action Plans

Employee Action Plans

Files (documentation)

Collaboration

Service Agreements (warranty & contract)

Project Action Plans

Customer Actions Plans

Start Up Machine

Clean Machine

PM Machine

Revise Machine (FCN)

Enhance Machine (CIN)

Repair Machine

De-Install Machine

Learn Machine

Machine Operations, Tests, & Corrective Actions

Machine-Related Files (documentation)

> <add new service agreement>

> <edit new service agreement template>

> 265

> 266

> 267

> 268

> 269

> 270

> etc.

= A

ne majority of employees that work offline in the fab.

FIG. 8E

SERVICE AGREEMENT 266

Company:	AMD F25
Warranty/Contract:	Warranty
Type:	Parts & Labor
Coverage Hours:	8-5, M-F
Monthly Revenue (\$):	4,000
Exclusions:	Consumables, Customer Damage
Poor Performance Penalties:	None
Excellent Performance Incentives:	None
Machines:	U10977

Dates:	Planned:	Actual:	Delta:
Start:	3/1/02	3/1/02	0
Stop:	6/1/03	7/15/03	75

Finances:	Planned:	Actual:	Delta:
Total Man-hours:	100	50	-50
Man-hours Rate: (include overhead...travel, tech supt, etc.):	70	70	0
Total Man-hours Cost (\$):	7000	3500	-3,500
Total Parts Cost (\$):	17,000	29,000	+12,000
Total Cost (\$):	24,000	32,500	+8,500
Total Revenue/Purchase Price (\$):	48,000	48,000	0
Profit/Loss (\$)	24,000	+12,000	-8,500
Profit Margin (%)	50	+31	-19

Finished

Return

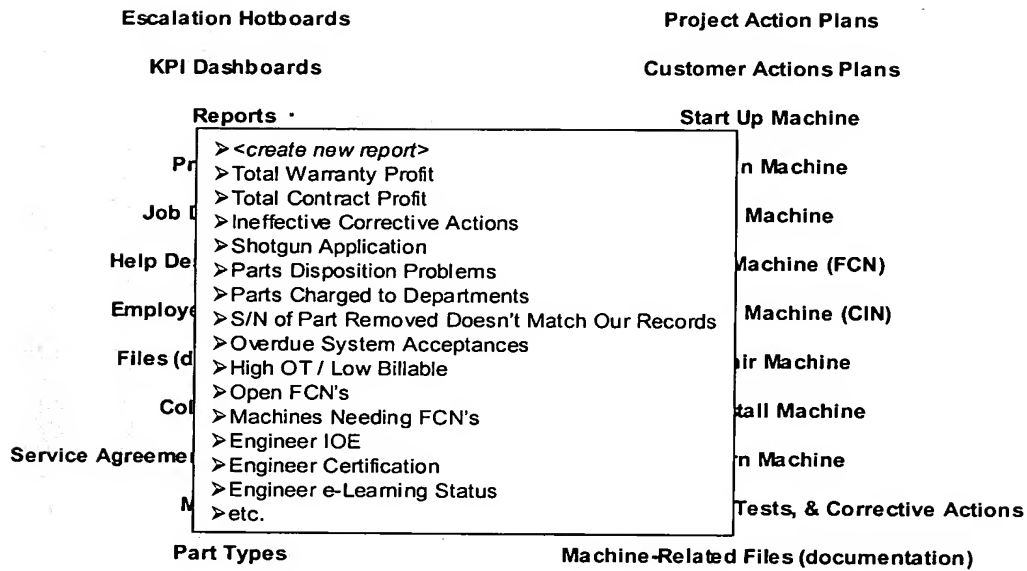
FIG. 8F

ANSWER MAIN MENU

Download
Client

Search

Exit



= Also available on offline client application for the majority of employees that work offline in the fab.

Return

FIG. 9

ANSWER MAIN MENU

Download
Client

Search

Escalation Hotboards

- > <make new>
- > Escalated Repair Time
- > Escalated System Acceptance Time
- > Escalated Customer Issues

Procedures

Job Descriptions

Help Desk Action Plans

Employee Action Plans

Files (documentation)

Collaboration

Service Agreements (warranty & contract)

Machines

Part Types

Project Action Plans

Customer Actions Plans

Start Up Machine

Clean Machine

PM Machine

Revise Machine (FCN)

Enhance Machine (CIN)

Repair Machine

De-Install Machine

Learn Machine

Machine Operations, Tests, & Corrective Actions

Machine-Related Files (documentation)

= Also available on offline client application for the majority of employees that work offline in the fab.

FIG. 10A

ESCALATED REPAIR TIME HOTBOARD

Exit

Filter

Customer	Model	Summary	Days Escalated	Assignee
Intel F22	Telius DRM	PC1 was damaged...	15	D. Kim
AMD	Unity M DRM	Isolated to the...	5	B. Bell
Motorola	Unity M DRM	The forward power is...	5	C. Hays
Intel D1C	Unity Ile SCCM	Waiting for parts.	5	J. Solis
Intel F22	TE5000 ATC	Isolated to the...	3	D. Kim
TI DMOS5	Unity Me SCCM	PC1 was damaged...	3	B. Bell
Micron	Unity Me SCCM	The forward power is...	1	C. Hays
Microchip	Unity M DRM	Isolated to the...	22	J. Hues
Infineon	Telius SCCM	PC1 was damaged...	12	J. Solis
Micron	Telius DRM	Found that the motor...	21	J. Solis

Green = Just Closed

Yellow = Limited Production

Red = Hard Down

FIG. 10B

ESCALATED CUSTOMER ISSUES HOTBOARD

Exit

Filter

Customer	Description	Days Escalated	Assignee
AMD F25	Start Up UM0050.	31	D. Kim
Intel F22	Repair U10980.	24	B. Bell
Intel D1C	Repair U10977.	15	C. Hays
Motorola	FAR Matcher (ES1D80-13223-01).	14	J. Hues
Samsung	FCN 243 U10668.	12	J. Solis
AMD F25	Repair UM050.	12	J. Solis
Intel D1C	FCN 324 UM10988.	5	J. Smith
Intel F22	Find out where connect the RF sync signal for the PEAK EPD.	1	B. Bell
Intel D1C	Supply AMD with a 2 piece sapphire window for all Unity M's.	34	J. Solis
Samsung	Extend wet clean out to 300 + RF hours.	12	B. Bell
AMD F25	Evaluate software Version 3.4 ability to change level 1 parameters.	5	J. Smith
Intel F22	Find out if we can run UEL above 60 degrees. Up to 80 degrees.	3	J. Smith
Samsung	Cooperative R&D for development of VPP controlled RF generator.	23	C. Hays
AMD F25	Start Up UM0061.	14	D. Kim

Green = Just Closed

Yellow = Limited Production

Red = Hard Down

FIG. 10C

ANSWER MAIN MENU

**Download
Client**

Search

Escalation Hotboards

KPI Dashboards ·

- <make new>
- Customer Support .
- Tech Support
- Field Service
- Start Up
- Tech Pubs
- Training

Ha

Employee Action Plans

Files (documentation)

Collaboration

Service Agreements (warranty & contract)

Machines

Part Types

Project Action Plans

Customer Actions Plans

Start Up Machine

Clean Machine

PM Machine

Revise Machine (FCN)

Enhance Machine (CIN)

Repair Machine

De-Install Machine

Learn Machine

Machine Operations, Tests, & Corrective Actions

Machine-Related Files (documentation)

= Also available on offline client application for the majority of employees that work offline in the fab.

FIG. 11A

**CUSTOMER SUPPORT
KPI DASHBOARD**

Assign New

Exit

Filter

KPI	Actual Result	Target Result
Accidents, Hazards, Incidents per employee per month.	1	0
Warranty Profit Margin %.	23	25
Warranty Parts Cost per machine per month.	10,000	8,500
Warranty Man-hours Cost per machine per month.	5,000	6,000
Contract Profit Margin %.	35	45
Contract Parts Cost per machine per month.	8,000	6,000
Contract Man-hours Cost per machine per month.	4,000	6,000
Modification Parts Sales per month.	45,000	25,000
Modification Man-Hours Sales per month.	30,000	25,000
Paid Service Man-Hours Sales per month.	54,000	50,000
Paid Service Parts Sales per month.	60,000	50,000
Installation Time (system acceptance) per machine.	230	90
Start Up Time per machine.	9	10
Start Up Parts Cost per machine.	500	0
Start Up Man-hours Cost per machine	5,000	6,000
Start Up Feedback Rating.	5	5
Mean Repair Time per Case.	5	6
Repair Parts Cost per Case.	4,000	2,000
Repair Man-hours Cost.	500	600
Wrench-Time %.	77	70
Billable Time %.	88	85
OT %.	16	10
FCN Completion %.	72	90
Mean Failure Analysis Time per Request.	52	35
Inventory Turns Rate.	3.2	4
Emergency Parts Hit Rate %.	93	92
Certification Class Completion %.	51	75
Training Class Completion %.	74	90
Training Class Feedback Rating.	5	5
e-Learning Completion %.	63	75
Index of Experience.	3.2	4.0

Yellow = KPI Warning

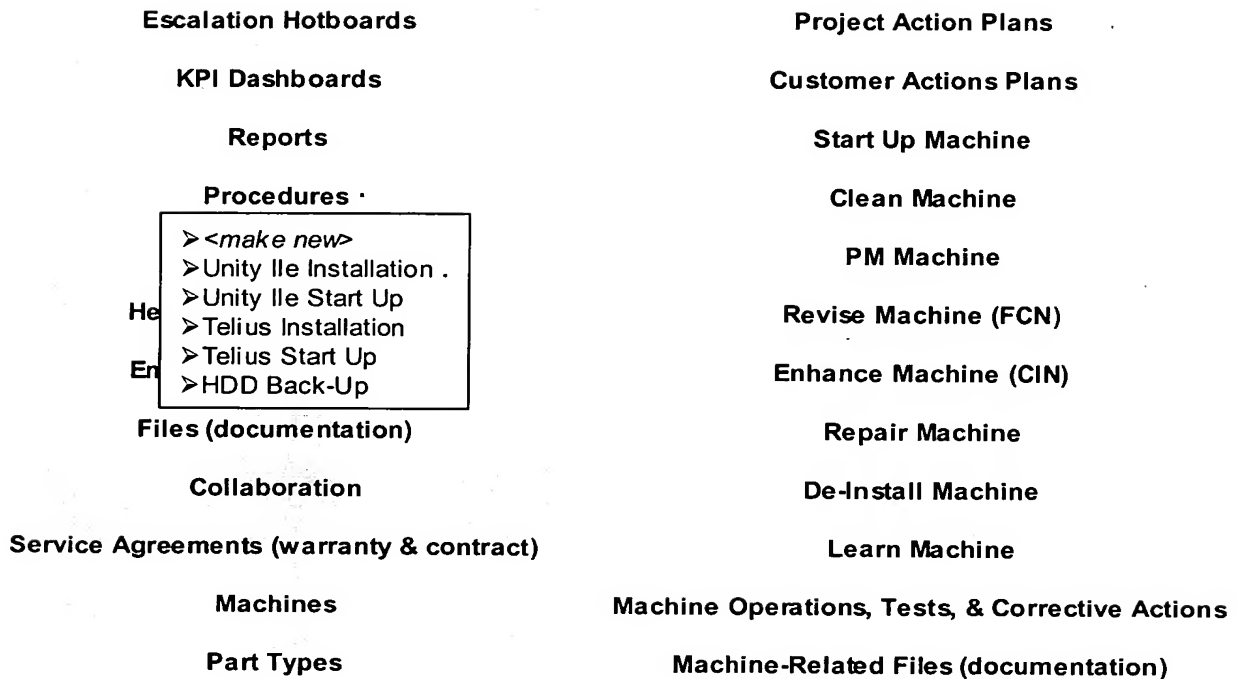
Red = KPI Failing

FIG. 11B

ANSWER MAIN MENU

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FIG. 12A

UNITY IIe INSTALLATION
PROCEDURE

Assign New

Exit

Filter

Order	Assignee	Description
1.	Start Up Supervisor	Use ANSWER to manage Installation.
2.	Start Up Supervisor	Review Sales Forecast & Shipping Schedule.
3.	Start Up Supervisor	Plan manpower.
4.	Start Up Supervisor	Schedule Installation.
5.	Start Up Supervisor	Provide Site Prep to Customer.
6.	Customer	Prepare Site.
7.	Final Test Technician	Tests Machine at Factory.
8.	Factory	Ships Machine.
9.	Start Up Engineer	Use ANSWER for Field Service Interfacing.
10.	Start Up Engineer	Attend Customer Protocol Training.
11.	Start Up Engineer	Uncrate & Inventory Machine.
12.	Customer	Connects Facilities.
13.	Start Up Engineer	Connect Machine Interconnect Cables.
14.	Start Up Engineer	Start Up Machine.
15.	Process Engineer	Sets Up Process.
16.	Sales Representative	Gets System Acceptance signed.

Gray = Not Approved Yet

Black = Approved

Yellow = KPI Warning

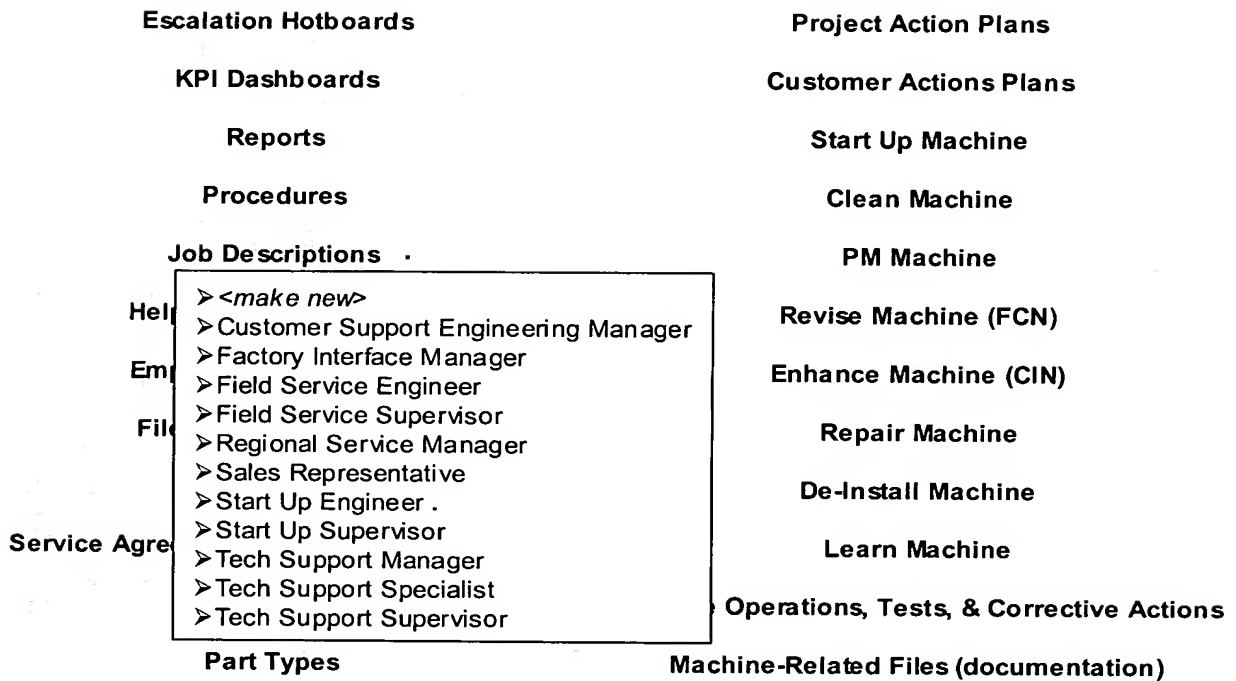
Red = KPI Failing

FIG. 12B

ANSWER MAIN MENU

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FIG. 13A

**START UP ENGINEER
POSITION ACTION PLAN
(Job Description)**

Assign New

Exit

Filter

Description
Attend TEL Machine Training.
Attend TEA Orientation.
Attend Customer Protocol Training.
Use TAS for Time Accounting.
Use Concur for Expense Accounting.
Use ANSWER for Field Service Interfacing.
Uncrate & Inventory Machines.
Connect Machine Interconnect Cables.
Start Up Machines.
Back-Up Machine Hard Disk Drives.

Gray = Not Approved Yet

Black = Approved

Yellow = KPI Warning

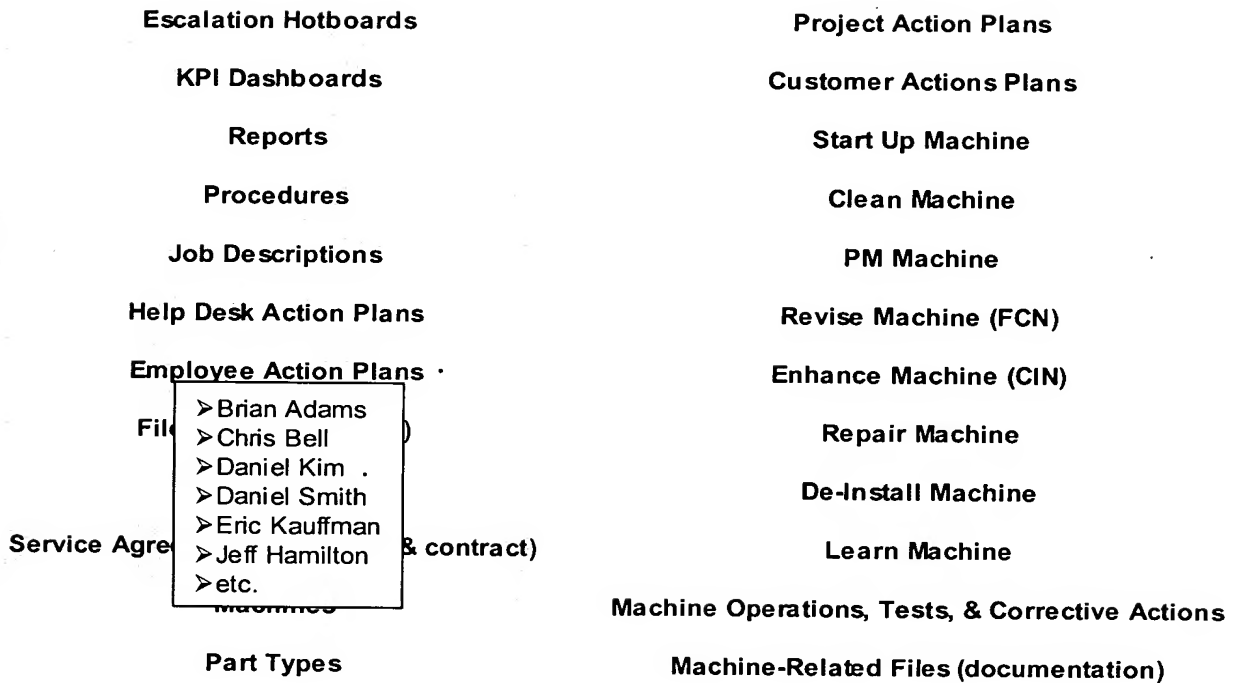
Red = KPI Failing

FIG. 13B

ANSWER MAIN MENU

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Client**

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FIG. 14A

DANIEL KIM
EMPLOYEE ACTION PLAN
(Section VII of Performance Review)

Assign New

Exit

Filter

Description	Current Planned Start	Actual Start
Start Up UM0050	10/8/02	10/8/02
Uncrate & Inventory UM0061.	10/10/02	10/10/02
Connect UM0061 Interconnect Cables.	4/10/02	4/10/02
Start Up UM0061.	10/8/02	10/8/02
Back-Up UM0061 Hard Disk Drives.	9/10/02	9/10/02
Use TAS for Time Accounting.	5/10/02	5/10/02
Use Concur for Expense Accounting.	4/10/02	4/4/02
Use ANSWER for Field Service Interfacing.	3/10/02	3/10/02
Uncrate & Inventory UM0050.	10/10/02	10/10/02
Connect UM0050 Interconnect Cables.	4/10/02	4/10/02
Back-Up UM0050 Hard Disk Drives.	9/10/02	9/10/02
Attend TEL Machine Training.	1/10/02	10/10/02
Attend TEA Orientation.	2/10/02	2/10/02
Attend AMD F25 Customer Protocol Training.	2/10/03	2/10/03

Gray = Assignee Hasn't Accepted Yet

Black = Assigned & Accepted

Green = Done

Yellow = KPI Warning

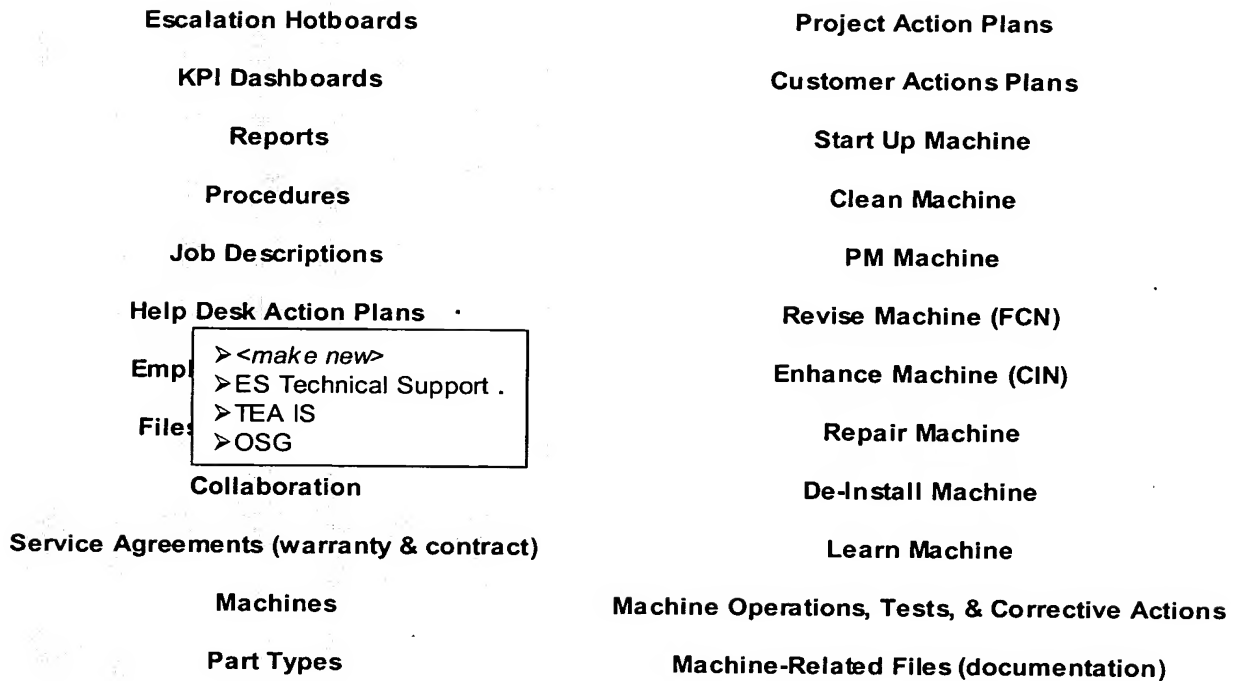
Red = KPI Failing

FIG. 14B

ANSWER MAIN MENU

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FIG. 15A

**ES TECHNICAL SUPPORT
HELP DESK ACTION PLAN**
(work being done by ES Tech Supt group)

Assign New

Exit

Filter

Description	Current Planned Start	Actual Start	Assignee
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
FAR Matcher (ES1D80-13223-01).	5/10/02	5/10/02	J. Hues
FCN 243 U10668.	4/10/02	4/4/02	J. Solis
FAR Matcher (ES1D80-13223-01).	5/10/02	5/10/02	J. Hues
FCN 243 U10668.	4/10/02	4/4/02	J. Solis
FCN 324 UM10988.	10/10/02	10/10/02	J. Smith
Find out where connect the RF sync signal for the PEAK EPD.	4/10/02	4/10/02	B. Bell
Supply AMD with a 2 piece sapphire window for all Unity M's.	10/8/02	10/8/02	J. Solis
Extend wet clean out to 300 + RF hours.	9/10/02	9/10/02	J. Pierce
Evaluate software Version 3.4 ability to change level 1 parameters.	12/10/02	12/10/02	J. Smith
Find out if we can run UEL above 60 degrees. Up to 80 degrees.	10/10/02	10/12/02	J. Smith
FCN 324 UM10988.	10/10/02	10/10/02	J. Smith
Find out where connect the RF sync signal for the PEAK EPD.	4/10/02	4/10/02	B. Bell
Supply AMD with a 2 piece sapphire window for all Unity M's.	10/8/02	10/8/02	J. Solis
Extend wet clean out to 300 + RF hours.	9/10/02	9/10/02	J. Pierce
Evaluate software Version 3.4 ability to change level 1 parameters.	12/10/02	12/10/02	J. Smith
Find out if we can run UEL above 60 degrees. Up to 80 degrees.	10/10/02		T. Supt
Extend wet clean out to 300 + RF hours.	9/10/02		T. Supt

Gray = Assignee Hasn't Accepted Yet

Black = Assigned & Accepted

Green = Done

Yellow = KPI Warning

Red = KPI Failing

FIG. 15B

ACTION DETAILS

ID:	10239
Description:	Need instructions on how to teach the new Telius pressure controller.
Parent Task:	None
Company:	AMD F25
Original Planned Start:	2/10/03 8:00 a.m.
Current Planned Start:	2/10/03 8:00 a.m.
Actual Start:	
Original Planned Stop:	2/14/03 5:00 p.m.
Current Planned Stop:	2/14/03 5:00 p.m.
Actual Stop:	
Order:	None
Purchaser:	
Requestor:	C. Hays
Assigner:	C. Hays
Assignee:	ES Technical Support
Assign Date:	2/10/03 8:00 a.m.
Accept Date:	
Reject Date:	None
Reason Rejected:	N/A
Comments:	None

Finished

FIG. 15C

**ES TECHNICAL SUPPORT
HELP DESK ACTION PLAN**
(work being done by ES Tech Supt group)

Assign New

Exit

Filter

Description	Current Planned Start	Actual Start	Assignee
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U10980.	2/10/02	2/10/02	B. Bell
Repair U10977.	2/10/03	2/10/03	C. Hays
Repair UM050.	3/10/02	3/10/02	J. Solis
FAR Matcher (ES1D80-13223-01).	5/10/02	5/10/02	J. Hues
FCN 243 U10668.	4/10/02	4/4/02	J. Solis
FAR Matcher (ES1D80-13223-01).	5/10/02	5/10/02	J. Hues
FCN 243 U10668.	4/10/02	4/4/02	J. Solis
FCN 324 UM10988.	10/10/02	10/10/02	J. Smith
Find out where connect the Gas sync signal for the PEAK EPD.	4/10/02	4/10/02	B. Bell
Supply AMD with a 2 piece sapphire window for all Unity M's.	10/8/02	10/8/02	J. Solis
Extend wet clean out to 300 + RF hours.	9/10/02	9/10/02	J. Pierce
Evaluate software Version 3.4 ability to change level 1 parameters.	12/10/02	12/10/02	J. Smith
Find out if we can run UEL above 60 degrees. Up to 80 degrees.	10/10/02	10/12/02	J. Smith
FCN 324 UM10988.	10/10/02	10/10/02	J. Smith
Find out where connect the RF sync signal for the PEAK EPD.	4/10/02	4/10/02	B. Bell
Supply AMD with a 2 piece sapphire window for all Unity M's.	10/8/02	10/8/02	J. Solis
Extend wet clean out to 300 + RF hours.	9/10/02	9/10/02	J. Pierce
Evaluate software Version 3.4 ability to change level 1 parameters.	12/10/02	12/10/02	J. Smith
Find out if we can run UEL above 60 degrees. Up to 80 degrees.	10/10/02	10/12/02	T. Supt
Need instructions on how to teach the new Telius pressure controller.	2/10/03	9/10/02	T. Supt

> Task Details.
> KPI/s.
> Accept Task.
> Reject Task.
> Instructions.
> Documents.

Gray = Assignee Hasn't Accepted Yet

Black = Assigned & Accepted

Green = Done

Yellow = KPI Warning

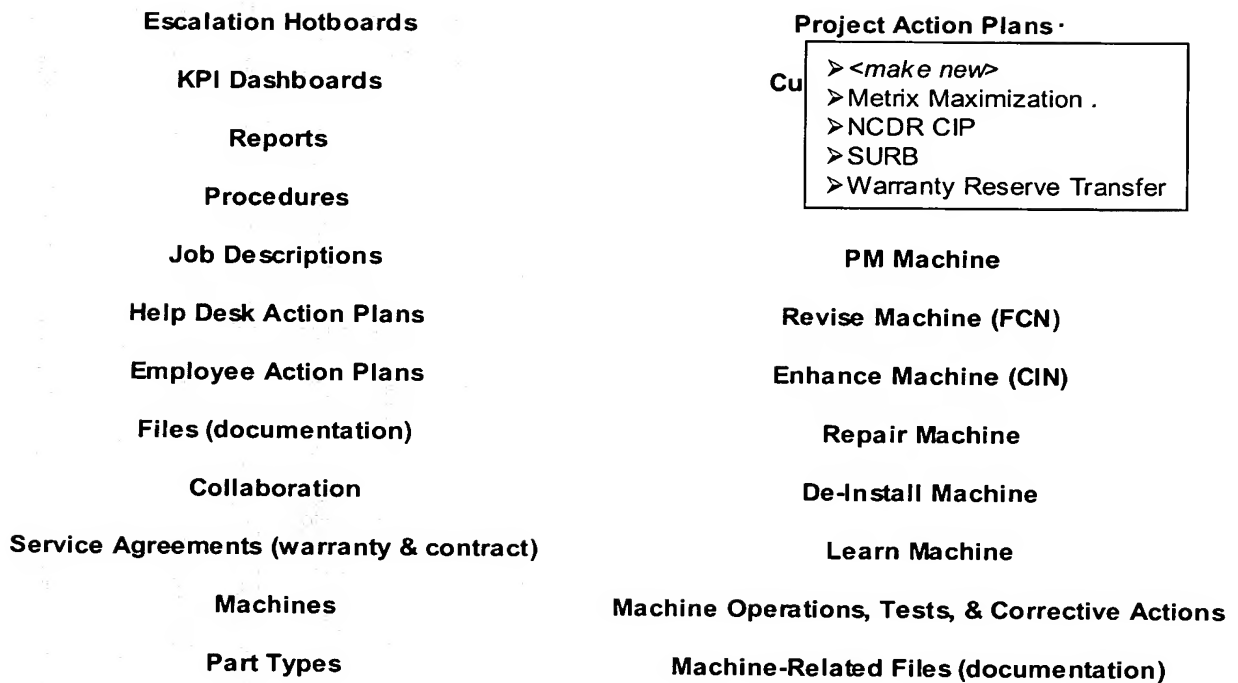
Red = KPI Failing

FIG. 15D

ANSWER MAIN MENU

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FIG. 16A

**METRIX MAXIMIZATION
PROJECT ACTION PLAN**
(work being done by group for Metrix Maximization)

Assign New

Exit

Filter

Description	Current Planned Start	Actual Start	Assignee
Build Crystal Reports	1/10/02	10/10/02	D. Kim
Get Techlink working	2/10/02	2/10/02	B. Bell
Build ODS.	2/10/03	2/10/03	C. Hays
Build XML interface to BAAN.	5/10/02	5/10/02	J. Hues
Install revised Metrix.	4/10/02	4/4/02	J. Solis
Buy new production server.	3/10/02	3/10/02	J. Solis
Etc.	10/10/02	10/10/02	J. Smith
Etc.	4/10/02	4/10/02	B. Bell
Etc.	10/8/02	10/8/02	J. Solis
Etc.	9/10/02	9/10/02	B. Bell
Etc.	12/10/02	12/10/02	J. Smith
Etc.	10/10/02	10/12/02	J. Smith
Interface with TAS	10/10/02		C. Hays
Etc.	10/10/02		J. Smith
Etc.	10/10/02		J. Smith
Etc.	10/10/02		J. Smith
Buy Metrix.	10/10/02	10/10/02	C. Hays
Etc.	10/1/02	10/12/02	J. Smith
Etc.	10/10/02	10/10/02	J. Solis
Etc.	10/1/02	10/11/02	J. Smith
Etc.	10/10/02	10/10/02	J. Solis
Etc.	9/10/02	10/10/02	J. Smith
Etc.	9/10/02	9/10/02	B. Bell
Etc.	10/10/02	10/10/02	J. Smith
Etc.	7/10/02	7/10/02	B. Bell
Etc.	10/10/02	10/10/02	J. Smith
Etc.	10/10/02	10/10/02	J. Smith
Etc.	9/10/02	9/10/02	J. Smith
Etc.	8/10/02	8/10/02	R. Smith

Gray = Assignee Hasn't Accepted Yet

Black = Assigned & Accepted

Green = Done

Yellow = KPI Warning

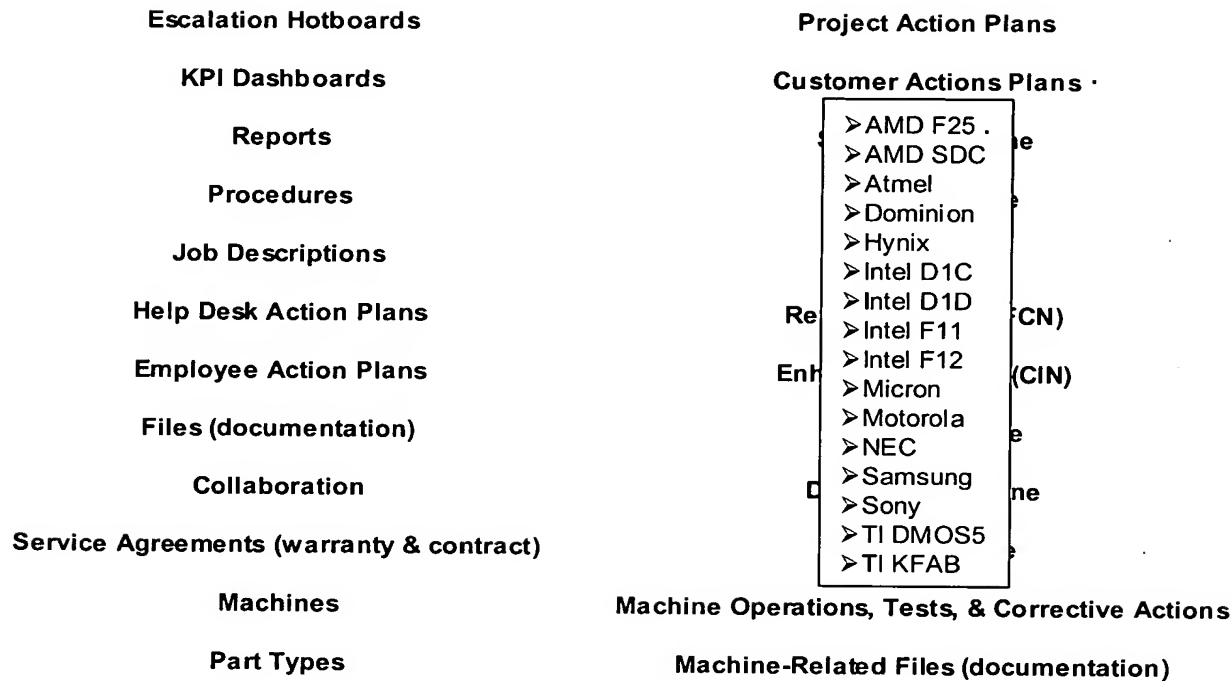
Red = KPI Failing

FIG. 16B

ANSWER MAIN MENU

Download Client

Search



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FIG. 17A

AMD F25
CUSTOMER ACTION PLAN
(work being done by group for AMD F25)

Assign New

Exit

Filter

Description	Current Planned Start	Actual Start	Assignee
Start Up UM0050.	1/10/02	10/10/02	D. Kim
Repair U 10980.	2/10/02	2/10/02	B. Bell
Repair U 10977.	2/10/03	2/10/03	C. Hays
FAR Matcher (ES1D80-13223-01).	5/10/02	5/10/02	J. Hues
FCN 243 U10668.	4/10/02	4/4/02	J. Solis
Repair UM050.	3/10/02	3/10/02	J. Solis
FCN 324 UM10988.	10/10/02	10/10/02	J. Smith
Find out where connect the RF sync signal for the PEAK EPD.	4/10/02	4/10/02	B. Bell
Supply AMD with a 2 piece sapphire window for all Unity M's.	10/8/02	10/8/02	J. Solis
Extend wet clean out to 300 + RF hours.	9/10/02	9/10/02	B. Bell
Evaluate software Version 3.4 ability to change level 1 parameters.	12/10/02	12/10/02	J. Smith
Find out if we can run UEL above 60 degrees. Up to 80 degrees.	10/10/02	10/12/02	J. Smith
Cooperative R&D for development of VPP controlled RF generator.	10/10/02		C. Hays
Start Up UM0061.	10/10/02		D. Kim
Etc.	10/10/02		J. Smith
Etc.	10/10/02		J. Smith
Repair UM10343.	10/10/02	10/10/02	C. Hays
Etc.	10/1/02	10/12/02	J. Smith
Etc.	10/10/02	10/10/02	J. Solis
Etc.	10/1/02	10/11/02	J. Smith
Etc.	10/10/02	10/10/02	J. Solis
Etc.	9/10/02	10/10/02	J. Smith
Etc.	9/10/02	9/10/02	B. Bell
Etc.	10/10/02	10/10/02	J. Smith
Etc.	7/10/02	7/10/02	B. Bell
Etc.	10/10/02	10/10/02	J. Smith
Etc.	10/10/02	10/10/02	J. Smith
Etc.	9/10/02	9/10/02	J. Smith
Etc.	8/10/02	8/10/02	R. Smith

Gray = Assignee Hasn't Accepted Yet

Black = Assigned & Accepted

Green = Done

Yellow = KPI Warning

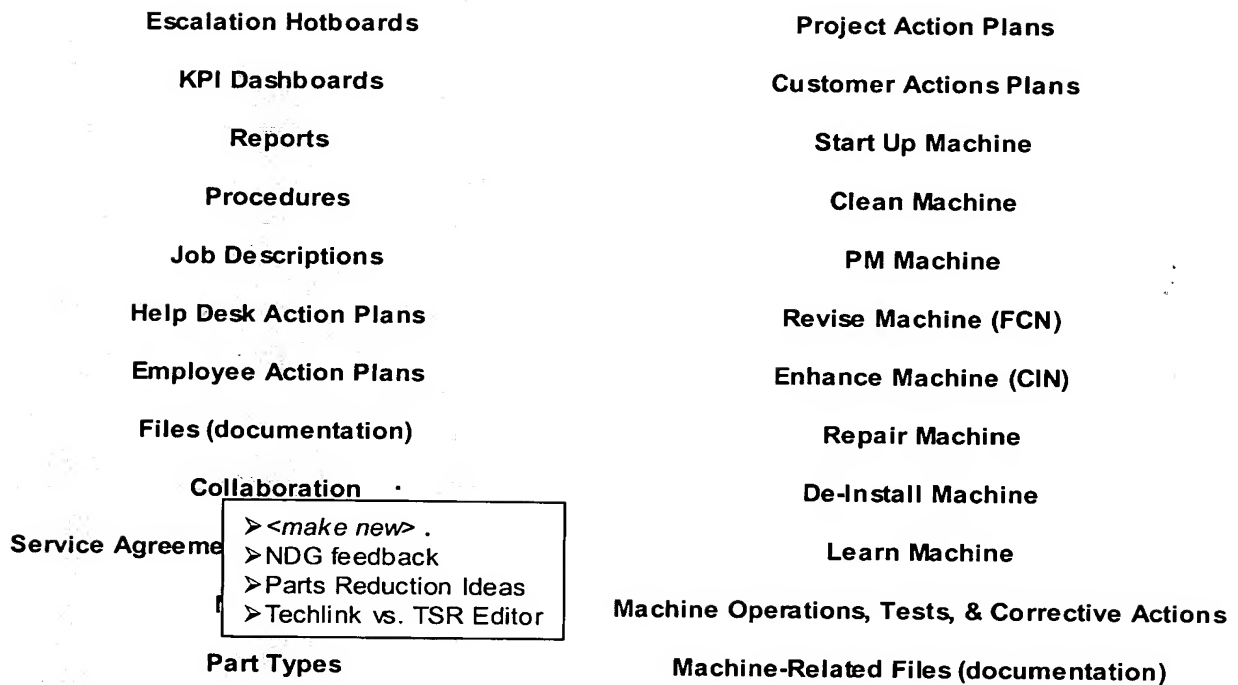
Red = KPI Failing

FIG. 17B

ANSWER MAIN MENU

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FIG. 18A

DISCUSSION DETAILS

ID:	10239
Initiated:	2/10/03 8:00 a.m.
Initiator:	Randy Norton
Subject:	
Introduction:	
Forum:	
Invitees:	

Forum Definition:

Open = Everyone can read & write. No invitations emailed.

Private = Invitees can read & write, no one else can read or write. Invitations are emailed to invitees.

Public = Invitees can read & write, everyone else can read. Invitations are emailed to invitees.

Finished

FIG. 18B

DISCUSSION DETAILS

ID:	10239
Initiated:	2/10/03 8:00 a.m.
Initiator:	Randy Norton
Subject:	Process Class.
Introduction:	I was thinking about requesting Mike Self to make a process class. I see it covering... ...What do you think?
Forum:	Private
Invitees:	M. Self, J. Hamilton, E. Kauffman, P. Gagnon, E. Maione, T. Luckett, S.Cannizzaro, etc.

Forum Definition:

Open = Everyone can read & write. No invitations emailed.

Private = Invitees can read & write, no one else can read or write. Invitations are emailed to invitees.

Public = Invitees can read & write, everyone else can read. Invitations are emailed to invitees.

Finished .

FIG. 18C

PROCESS CLASS
DISCUSSION

Attach Document

Exit

Filter

Initiator:	Randy Norton
Forum:	Private (Invitees can read & write, no one else can read or write. Invitations are emailed to invitees.)
Invitees:	M. Self, J. Hamilton, E. Kauffman, P. Gagnon, E. Maione, T. Lockett, S.Cannizzaro, etc.

R. Norton: I was thinking about requesting Mike Self to make a process class. I see it covering... ..What do you think?

FIG. 18D

PROCESS CLASS
DISCUSSION

Attach Document

Exit

Filter

Initiator:	Randy Norton
Forum:	Private (Invitees can read & write, no one else can read or write. Invitations are emailed to invitees.)
Invitees:	M. Self, J. Hamilton, E. Kauffman, P. Gagnon, E. Maione, T. Lockett, S.Cannizzaro, etc.

R. Norton: I was thinking about requesting Mike Self to make a process class. I see it covering... ..What do you think?

<p>> Reply: .</p> <div>Submit</div>
--

FIG. 18E

PROCESS CLASS
DISCUSSION

Attach Document

Exit

Filter

Initiator:	Randy Norton
Forum:	Private (Invitees can read & write, no one else can read or write. Invitations are emailed to invitees.)
Invitees:	M. Self, J. Hamilton, E. Kauffman, P. Gagnon, E. Maione, T. Lockett, S.Cannizzaro, etc.

R. Norton: I was thinking about requesting Mike Self to make a process class. I see it covering... ..What do you think?

└─ **P. Gagnon:** I agree. I've been wanting this for a while. I think Mike is the up to the challenge.

└─ **S. Cannizzaro:** Paul, Did you ask for this before?

└─ **J. Hamilton:** I agree. I like the idea about the faking endpoint using light from the room.

FIG. 18F

FIG. 19

